Solution Brochure

Datacard® MX Series System

MX1100™ MXD111™ MXi115™

Entry into centralized card issuance

This entry-level Datacard® MX Series solution offers a variety of pre-configured, fixed solutions for centralized card issuance and delivery. Card issuers can take an affordable first step into centralized card issuance with the quality, reliability, and efficiency needed to expand operations. Seamlessly integrate card delivery and envelope insertion to create inline, automated card-to-envelope solutions.

ENTRUST

SECURING A WORLD IN MOTION

Securely enter centralized card issuance

DATACARD® MX1100™ CARD ISSUANCE SYSTEM

Take your card program to the next level of efficiency for a minimal capital investment. The MX1100 System helps card issuers take an affordable first step into centralized card issuance. This system offers a unique combination of low cost per card and proven quality, reliability, and ease of use for expanding card programs.

KEY TECHNOLOGIES

- Magnetic Stripe Encoding Gen 2
- Smart Card Personalization Gen 2
- Single-Step Color Printing
- Graphics Printing Gen 3
- Durable Graphics Printing Gen 2
- Laser 425F
- Laser 430G
- Basic Topcoat Gen 2
- Datacard® DuraGard® Laminate
- Embossing/Indent Printing Gen 2
- Topping Gen 2
- Label Affixing Gen 2
- Card Scanning Gen 2
- Vision Verification Gen 3
- Datacard® MXD111™ Card Delivery System
- Datacard® MXi115™ Envelope Insertion System

High-end personalization and security

A choice of pre-configured systems. The MX1100 System is available in several value-priced fixed configurations — with or without smart card capabilities — allowing you the flexibility to choose the configuration that meets the specific needs of your card program.

Proven design from a trusted partner. Based on the industry-leading Datacard® Central Issuance Platforms, the MX1100 System consistently demonstrates superior productivity and security in incredibly demanding issuance environments worldwide. Multiple physical and logical security features reduce the risk of fraud and theft without slowing the issuance process.

Metal card engraving. The MX1100 System offers customers the ability to produce metal engraved cards or plastic financial cards within the same system, providing a productive solution that can serve as both a standard personalization system as well as a unique program differentiator. Metal cards provide a strong brand statement within high-value or elite card programs. See the Datacard® MX1100™ Card Issuance System for metal card personalization data sheet for more information.

A complete card-to-envelope solution. The Datacard® MXD111™ Card Delivery and Datacard® MXi115™ Envelope Insertion Systems seamlessly integrate with the MX1100 System to enhance your overall card operations. In one automated process, you can affix cards and add marketing insertions into an envelope for a complete card-to-envelope solution.

MX1100 Card Issuance System

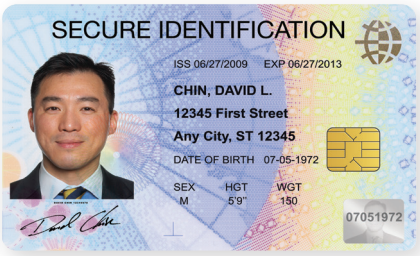
Key technologies

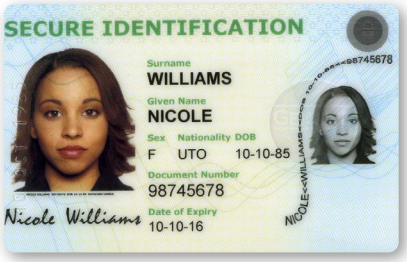
Physical and logical security

The MX1100 System offers multiple lines of defense to help reduce the risk of fraud and theft. Logical safeguards protect cardholder and production data, while physical security features limit access to the system controller, card stock, and supplies.

System controller software

Centralized controls and an intuitive interface allow operators to manage all system functions — data input, job setups, card layout design, production environment, error/remake management, and audit/ reconciliation management.





The MX1100 System is available in several value-priced, fixed configurations that are ideal for issuing highly secure national IDs, driver's licenses, and healthcare, credit, debit, prepaid, and membership cards.

Magnetic stripe encoding

Write and verify up to three tracks of data simultaneously on ID-1 or mini-cards. Flexible mounting of encoding heads accommodates a wide range of encoding needs. The system provides read/lookup and read/verify functions to automate downstream personalization. It supports all ISO, AAMVA, and JIS encoding formats with common coercivity requirements.

Smart card personalization

Personalize smart cards with a flexible, high-quality, secure system. The system architecture accommodates contact and contactless smart cards, enabling issuers to accommodate many card types.

Single-step color printing

Print full-color, 300 dpi photos, graphics, logos, and images directly on the card using dye diffusion thermal transfer (D2T2) technology. The system allows for near edge-to-edge printing and provides a low-cost color output in a compact footprint. The single-step color printing package includes your choice of basic topcoat or DuraGard laminate.

Key technologies

Laser 425F

This laser is designed to optimize financial card personalization. It utilizes a simplified setup interface, allowing faster creation and updates to ever-changing card layouts. Capable of engraving alphanumeric text, bar codes, and static bitmap images with exceptional quality.

Laser 430G

This laser is designed for secure government applications. It utilizes the latest in precision control architecture and fiber laser technology to deliver high-speed, fine line detail engraving of variable-sized photos, security features, and alphanumeric text.

Graphics printing

Thermal technology enables card issuers to print 300 dpi monochrome, custom graphics, including text, logos, and bar codes. Near edge-to-edge printing and precise placement tolerances deliver excellent results on PVC cards. Flexible configurations allow customers to print different colors on a single side, or print front and back graphics in a single pass.

Durable graphics printing

Personalize long-lasting, high-resolution 600 dpi monochrome graphics — such as text, logos, bar codes, and other card elements — on PVC cards using thermal transfer UV-cured ribbon technology. Topcoat application is not required.

Basic topcoat

Protect color or graphics-printed images with a true edge-to-edge layer of clear or holographic topcoat. A variety of application rollers are available to meet card program needs.

DuraGard® lamination

Issuers who require extended card durability and security can replace basic topcoat with DuraGard laminate — a polyester patch that offers extra protection. Laminate supplies are available in holographic and a variety of clear laminate sizes.

Embossing/indent printing

Personalize cards using high-quality, ISO-compliant embossing and indent printing on front, back, or both sides of cards. The unique design provides consistent character-to-character spacing, text height, and alignment. Issuers can utilize multiple fonts and a wide range of characters, including Braille and security fonts.

Topping

Colored topping material increases readability of embossed characters. The system delivers consistent, high-quality topping, card after card — exceeding ISO standards.

Card scanning

For additional security, the system can read a variety of pre-printed serial numbers, document control numbers, and bar codes used to control and monitor secure card stocks, providing an additional layer of fraud prevention.

Vision verification

Automate your quality process with the inline quality checking option. It verifies a wide variety of pre-printed and personalized elements on the front and/or back of cards to help reduce the chance of errors, improve data integrity, and increase efficiency.

Technical specifications

MX1100™ System Specifications	
System Controller	Intel Xeon Quad CPU 3.8 GHz
Security Software Capability	Microsoft® Windows® 10 IoT Enterprise 2021 LTSC operating system security access level control and input/export of encrypted and/or digitally signed data. Access and privileges are assigned by the administrator.
Card Input/ Output Gen 2	Up to 500 (0.03 in. thick) non-embossed cards per tray; 300 embossed cards per tray.
Cleaning	Cleans entire front and back surface of the card in one pass. Cleaning sleeve located in the input when Graphics, Durable Graphic, or Single Step Color is optioned.
Magnetic Stripe Encoding Gen 2	Supports common ISO, AAMVA, and JIS formats; High, low, and JIS coercivity Track Density: Standard encoding 75 and 210 bpi (bits per inch), Custom encoding selections from 75 to 315 bpi
Smart Card Personalization Gen 2	Combination: Programming stations: 1 to 6 Full support as documented below for all protocols, frequencies, and communication speeds Contact: Programming stations: 1 to 11 Protocols supported: Full ISO 7816-4, T=0/T=1 Frequencies (clock speeds): 3.6 MHz, 4.5 MHz, 6.0 MHz, 9.0 MHz, 18 MHz (clock frequencies) Supports communication speeds as defined by ISO 7816-3 up to 230K bps Contactless: Programming stations: 1 to 6; Full and half-height antenna supported Protocols supported: ISO 14443 Type A, Type B, MIFARE, and ISO 15693 Frequencies (clock speeds): 13.56 MHz Supports communication speeds of 106, 212, 424, and 847 Kbps
Single-Step Color Printing	Resolution: 300 dpi Text Formats: Scalable fonts, including OpenType and TrueType fonts for Microsoft® Windows® operating systems Image Formats: Certain versions or features of the following image formats may be supported: BMP, JPEG, PNG, TIFF. For additional information contact your local sales representative. Placement: Near edge-to-edge - 0.1 in. (2.54 mm) from card edge, chip, or cutout
Graphics Printing Gen 3 and Durable Graphics Printing Gen 2	Resolution: 300 dpi (Graphics Printing Gen 3), 600 dpi (Durable Graphics Gen 2) Text Formats: Scalable fonts, including OpenType and TrueType fonts for Microsoft® Windows® operating systems Bar Code Formats: One-dimensional (1D): Code 39, Extended Code 39, HIBC, Codabar, NW7, EAN8, EAN13, JAN8, JAN13, UPCA, UPCE, Bookland, Interleaved 2 of 5, Code 128, Code 93, MSI Plessey Stacked: PDF417 Two-Dimensional (2D): QR, Aztec, Data Matrix Image Formats: Certain versions or features of the following image formats may be supported: BMP, JPEG, PNG, TIFF, JPEG 2000, PCX, PNG, TGA and TIFF. For additional information contact your local sales representative. Placement: Near edge-to-edge - 0.1 in. (2.54 mm) from card edge, chip or cutout
Laser 425F	Technology: Air-cooled fiber laser; Class 1 laser product Capabilities: Pixel engraving: text, bar codes, and other digitized images; vector engraving; text; micro-engraving Resolution: Greater than 400 dpi Elements: Alphanumeric text, vector text, bar codes, signature, micro-engraving Text Formats: Scalable fonts, including TrueType fonts for Microsoft® Windows® operating systems Bar Code Formats: One-dimensional (1D):Code 39, Extended Code 39, HIBC, Codabar, NW7, EAN8, EAN13, JAN8, JAN13, UPCA, UPCE, Bookland, Interleaved 2 of 5, Code 128, EAN/UCC 128, Code 93, MIS Plessey Stacked: PDF417 Two-dimensional (2D): QR Code, Data Matrix Stacked: PDF417 Image Formats: JPEG (.jpg),TIFF (.tif), Bitmap (.bmp), PNG (.png), GIF89 (.gif)
Laser 430G	Technology: Air-cooled fiber laser; Class 1 laser product Capabilities: Pixel engraving: text, photos, bar codes, and other digitized images; vector engraving; text; micro-engraving; tilted image engraving: CLI, MLI, 3D photo; security features: laser tact, persocurve, photo optimization Resolution: Up to 3,200 dpi; grayscale Elements: Photo, alphanumeric text, vector text, bar codes, signature, fingerprint, graphics images, scrambled indicia, tilted images, ghost images, micro-engraving Text Formats: Scalable fonts, including TrueType fonts for Microsoft® Windows® operating systems Bar Code Formats: One-dimensional (1D): Code 39, Extended Code 39, HIBC, Codabar, NW7, EAN8, EAN13, JAN8, JAN13, UPCA, UPCE, Bookland, Interleaved 2 of 5, Code 128, EAN/UCC 128, Code 93, MIS Plessey; Stacked: PDF417 Two-dimensional (2D): QR Code, Data Matrix Image Formats: JPEG (.jpg),TIFF (.tif), Bitmap (.bmp), PNG (.png), GIF89 (.gif)
Tilted Engraving Features	Tilted laser range: Vertical axis 3 30° Horizontal axis 3 20° 3D image 3 10° (either vertical or horizontal axis may be used) Tilted engraving placement: 0.315 in. (8.0 mm) from any edge on the card

Technical specifications

MX1100™ System Specifications	
Basic Topcoat Gen 2	Full edge-to-edge embossable topcoat. Available in clear and random or registered custom holographics.
DuraGard® Laminate	Placement within approximately 0.03 in. (0.081 cm) of card edges. Card-to-card placement tolerance of less than 0.032 in. Size/ Thickness: 2.06 in. x 3.31 in. (5.23 cm x 8.41 cm); 1.0 mil thick
Embossing / Indent Printing Gen 2	Capability: Up to 8 lines of embossing Indent Printing: Front, rear, or both sides of the card Print Placement: Vertical: 0.16 in. (4 mm) to 1.46 in. (37.1 mm) from bottom edge of card to center line Horizontal: 0.10 in. (2.5 mm) to 3.2 in. (83.2 mm) from left edge of card to center line Fonts: 112-character wheel accommodates multiple fonts and special characters Standard: OCR-A, OCR-B, Standard Gothic, Helvetica, Farrington, Katakana III Special, custom, secure fonts, and international language characters
Topping Gen 2	Automatically determines and applies the appropriate topping area based on prior embossing in the same production run Vertical: 1.54 in (39.1 mm) measured from bottom edge of the card to uppermost character edge and 0.095 in. (2.4 mm) measured from bottom edge of the card to lowermost edge Horizontal: 3.08 in. (78.3 mm) measured from left edge of card to final character edge and 0.24 in. (6.1 mm) measured from left edge of card to first
Pre-Printed Label Affixing Gen 2	Label Types Supported: Pre-printed labels Label Size: Minimum: Height: 0.625 in. (15.9 mm), Width: 1.0 in. (25.4 mm); Maximum: Height: 1.0 in. (25.4 mm), Width: 3.0 in. (76.2 mm) Label Placement: 1.0 in. (25.4 mm) from the bottom of the card; 0.125 in. (3.175 mm) from the top of the card; 0.10 in. (2.54 mm) from the right or left edge of the card
Card Scanning Gen 2	Bar Code Formats: One-dimensional (1D): Code 39, Extended Code 39, HIBC, Codabar, NW7, EAN8, EAN13, JAN8, JAN13, UPCA, UPCE, Bookland, Interleaved 2 of 5, Code 128, EAN/UCC 128, Code 93, MSI Plessey Stacked: PDF417 Two-dimensional(2D): QR, Aztec, Data Matrix Minimum height: -One-dimensional (1D): Either 0.25 in. or 0.15 x total length of code, whichever is larger -Stacked: PDF417: Minimum height is twice the length of the code -Two-dimensional (2D): Data Matrix: Minimum height is dependent on amount of data and size of element QR: Minimum height is dependent on amount of data and size of element Aztec: Minimum height is dependent on amount of data and size of element Bar Code Requirements: Narrowest width of space or bar in bar code: One Dimensional (1D): Code 39 0.0075 in. (0.191 mm) Code 128 0.0075 in. (0.191 mm) UPC 0.0075 in. (0.191 mm) Interleaved 2 of 5 0.005 in. (0.127 mm) -Stacked: PDF417 0.015 in. (0.381 mm) -Two Dimensional (2D): Data Matrix 0.015 in. (0.381 mm) QR 0.015 in. (0.381 mm) Aztec 0.015 in. (0.381 mm) • Codes printed in black on white recommended
Vision Verification Module Gen 3	Readable Elements: Basic support for many TrueType fonts for Microsoft® Windows® operating systems; printed and pre-printed graphics, durable graphics, drop on demand, laser, and OCR-B characters (including ICAO MRZ standards for cards)* Image Rotation Capabilities: Supports rotation at 90, 180, and 270 degrees Minimum Verifiable Text Size: High-quality, lithographic printing — 0.06 in. (1.52mm) High-quality color (D2T2) and graphics printing — 0.085 in. (2.16mm)
System Height and Depth	To top of module 50.1 in. (127.3 cm). Front to back 33.8 in (85.9 cm)
Electrical Requirements	230V, 50/60Hz, 15 Amps
Operating Requirements	Room temperature: 65° to 80° F (18° to 27° C); Humidity: 35% to 85% (non-condensing); See module data sheets for specific information
Storage Requirements	Room temperature: 50° to 130° F (10° to 54° C); Humidity: 0% to 85% (non-condensing)
MXD111 and MXi115 Systems	See MXD111 Card Delivery System and MXi115 Envelope Insertion System data sheets for more information

Datacard® MX SERIES SYSTEMS

Configurations

MX1100™
MXD111™
MXi115™

The MX1100 System offers flexible options with or without smart card. Choose the configuration that meets your card production needs. For more information on the configuration options and their included technologies, refer to the MX1100 Systems Configurations Overview Guide available on Partner Central.

Base MX1100 System Configurations		Target Applications
DGS	Durable Graphics, Smart Card Enabled	Financial Credit, Debit
G	Graphics	Driver's License, Healthcare, Gift, Credit, Direct Mail, Membership
GS	Graphics, Smart Card Enabled	National ID, Healthcare, Driver's License, Flat Credit, Gift
E	Embossing	Financial Credit, Debit, Gift
ES	Embossing, Smart Card Enabled	EMV, Credit, Debit, Gift
LG	Laser	National ID, Social Security
LGS	Laser, Smart Card Enabled	National ID, Driver's License

Metal Card MX1100 System Configurations		Target Applications
MLFS	Metal Card, Smart Card Enabled	Financial Credit, Debit
MLFPS	Metal & Plastic Card, Smart Card Enabled	Financial Credit, Debit

For more information on the metal card configuration options, refer to the **MX1100 Metal Card data sheet** available on Partner Central.

Learn more at
entrust.com

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